WORLD TRADE

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Committee on Sanitary and Phytosanitary Measures

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TECHNICAL ASSISTANCE TO DEVELOPING COUNTRIES PROVIDED BY AUSTRALIA

The following communication, dated 8 March 2004, is being circulated at the request of the Delegation of Australia.

- 1. In response to the Secretariat's request in G/SPS/W/101, Australia submits the following compilation of technical assistance provided to developing countries between January 2000 and December 2002, in accordance with Article 9 of the Agreement on the Application of Sanitary and Phytosanitary Measures (see attached table). The assistance was primarily aimed at helping developing countries to adjust to, and comply with, sanitary and phytosanitary measures in their export markets. Because of the number of Australian government agencies and the various delivery programs involved, the attached list is not an exhaustive compilation of all relevant technical assistance, and a small number of projects will have been omitted.
- 2. The monetary value of the official development assistance given amounted to over A\$56 million, and it should be noted that, in many cases, the organisations providing the assistance also made substantial additional in-kind contributions to projects.
- 3. Assistance was given to 45 Member and Observer countries, mainly in the Asia–Pacific Region, but also in Africa, the Middle East and South America. Most assistance was directed to individual countries, but assistance was also provided to groups of countries or regional organisations such as Pacific Island countries, the Association of South-East Asian Nations (ASEAN), and the Asia Pacific Economic Cooperation (APEC).
- 4. Australia's assistance covered all four broad categories listed in G/SPS/GEN/206: information; training; 'soft' infrastructure development; and 'hard' infrastructure development. Furthermore, Australian assistance covered most of the 'typical areas of competence' listed under the headings of food safety, animal health and plant protection, in the annex of G/SPS/GEN/206.
- 5. The terms used in Table 1 to categorise the projects according to sector are those listed in the annex of G/SPS/GEN/206.
- 6. In all, 115 projects are listed, with 43 relating to plant protection, 34 to animal health, 18 to food safety, 8 to a combination of animal health and plant protection, 8 to a combination of plant protection and food safety, and 4 to a combination of animal health, plant protection and food safety.

AUSTRALIAN GOVERNMENT AGENCIES INVOLVED IN PROVIDING TECHNICAL ASSISTANCE

7. The Australian Government and State and Territory Governments are the primary organisations involved in delivering Australia's technical assistance to developing countries. Within

the Australian Government the principal departments involved are the Department of Agriculture, Fisheries and Forestry (DAFF), Department of Health and Ageing (DoHA), and Department of Foreign Affairs and Trade (DFAT).

- 8. The relevant groups within DAFF that are responsible for agricultural biosecurity in Australia are Biosecurity Australia, the Australian Quarantine and Inspection Service (AQIS) and Product Integrity, Animal and Plant Health (PIAPH).
- 9. Biosecurity Australia conducts research and development of policy and procedures to protect Australia's animal and plant health status and natural environment in consultation with industry, other government agencies and the community. Biosecurity Australia is responsible for developing new policies or reviewing existing quarantine policy on imports of animals and plants and their products. The development of new import policy is based on science and, in particular, on a rigorous process of risk analysis. Biosecurity Australia also assists Australia's export market access program by negotiating with overseas trading partners, and participating in international meetings and organisations.
- 10. AQIS is the operational arm of Australia's biosecurity framework. AQIS is charged with protecting Australia's animal, plant and human health status, and has a clear legislative mandate to do this under the *Quarantine Act 1908*. To ensure the integrity of Australia's borders, AQIS performs quarantine inspection services when international passengers, cargo, mail, animals and plants or their products arrive in Australia. AQIS is also charged with enabling Australia's exports to achieve and maintain market access though an inspection and certification service for an extensive range of animal and plant products exported from Australia. The Northern Australia Quarantine Strategy (NAQS) protects the quarantine integrity of the northern Australian coastline through an early warning program of scientific surveys and monitoring, border activities and public awareness. NAQS also encompasses surveillance and monitoring offshore, in collaboration with the relevant authorities in Indonesia, Papua New Guinea and East Timor.
- 11. PIAPH works to manage animal health and welfare, plant health and protection, residues, food safety, and agricultural and veterinary chemicals. PIAPH leads national responses to significant pest, disease and food contaminant emergencies, and facilitates the development of national infrastructure and policies, and international standards development and review.
- 12. DoHA is responsible for all aspects of human quarantine, and food safety and its standards within Australia. Within the health and ageing portfolio, Food Standards Australia New Zealand (FSANZ), is the statutory authority with prime responsibility for developing food standards and other food regulatory measures for Australia and New Zealand. It also acts as a risk assessor in relation to imported food, and coordinates monitoring of the food supply, enforcement of food standards and all Australian food recalls.
- 13. Australia's overseas aid program is administered through the Australian Agency for International Development (AusAID) and the Australian Centre for International Agricultural Research (ACIAR). AusAID is an administratively autonomous agency, within the foreign affairs and trade portfolio and ACIAR is an Australian Government statutory authority that operates as part of AusAID. Australia's aid programs are primarily funded through AusAID and ACIAR, with substantial in-kind contributions from the Australian Government and State and Territory Government providers. In addition, DFAT presents WTO training workshops and conferences to which foreign government and non-government officials are often invited, and DFAT is a contributor to the WTO Global Trust Fund (including its work on WTO SPS issues).

| Technical | Assistance | Provided to | o Mer | ibers and | Observers: | January | 2000 to | o Decembe | r 2002 |
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| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: |
|---------------------------------------|---|--|---------------------|--------------------------|
| Animal Health and Plant Protection | Strengthening agricultural quarantine, animal and plant health | Develop enhanced quarantine capability through policy and legislative support, animal and plant health monitoring activities, emergency animal disease management training and limited infrastructure support | Indonesia | tim.buick@daff.gov.au |
| Animal Health | Quality assurance training for animal health laboratories | Quality assurance systems training for six managers of national laboratories at the Australian Animal Health Laboratories (AAHL) and Victorian Institute of Animal Science to establish selected tests and quality assurance systems. | Indonesia, Thailand | tim.buick@daff.gov.au |
| Plant Protection and Food Safety | Internet database of Plant Protection and Food Safety standards | Facilitate growth in trade in food products between Indonesia and Australia by increasing understanding of Australian food safety and import requirements and regulations amongst Indonesian food exporters and government officials. Outputs include a comprehensive plain English / plain Bahasa Indonesia description of Australian quarantine regulations and food standards relevant for Indonesian exporters posted on the Internet. | Indonesia | infoausaid@ausaid.gov.au |
| Food Safety | Indonesia Perishables Cool Chain Project | Develop basic perishables supply/cool chain criteria through an informal workshop, training and awareness program, production and dissemination of pamphlets, study solutions and other relevant information/materials to encourage the uptake of improved post-harvest supply/cool chain practices in Indonesia | Indonesia | infoausaid@ausaid.gov.au |

| Technical Assistance Provided to Members and Observers | s: January 2000 to December 2002 |
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| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: |
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| Food Safety | Food safety - institutional strengthening | Support establishment of the Food Stars and Food Watch programs, as identified in Indonesia's National Integrated Food Safety System (IFSS) through improved microbiological and chemical safety of the food supply; introduction of a food safety education and award system that applies from paddock to plate throughout Indonesia; local support for food businesses to develop step-by-step, risk based food safety programs. | Indonesia | infoausaid@ausaid.gov.au |
| Food Safety | Food import labelling and composition guide – bahas guide | Design and implementation of food safety programs in small to medium industry, strengthening of food analysis capabilities within the Indonesian health system, review and improvement of food monitoring and surveillance systems in Indonesia. The food safety training course modules will be adopted by the BSN (Badan Standardisasi Nasional) as a national standard. The establishment of an organisation for food inspectors will help to promote the transfer of information and facilitate the consistent implementation of food safety programs throughout Indonesia. | Indonesia | infoausaid@ausaid.gov.au |
| Plant Protection | Development of a national plant disease herbarium and pathogen collection | Training in fungal diagnostics, improved awareness activities, preservation of plant disease specimens, provision of laboratory infrastructure, including computer equipment, software and training. | Indonesia, Thailand | Graeme.evans@daff.gov.au |
| Plant Protection, Animal Health, and Food Safety | Agricultural Quarantine Support Project | Improve the PNG government's capacity to provide quarantine, animal and plant health services to protect and enhance PNG's agricultural industries and natural resources. | Papua New Guinea | infoausaid@ausaid.gov.au |

| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: |
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| Plant Protection, Animal Health, and Food Safety | Australian Contribution to National Agricultural Research Systems | Assisting Government of Papua New Guinea in the establishment of the National Agriculture Research Institute (NARI) to enhance the well-being of smallholder farmers involved in food production and livestock. | Papua New Guinea | infoausaid@ausaid.gov.au |
| Animal Health and Plant Protection | Workshop | Training and technical assistance in plague control | Peru | infoausaid@ausaid.gov.au |
| Animal Health | Foot and Mouth Disease (FMD) Control | Technical and management support contributing to the OIE recognition of Mindanao, Visayas, Palawan & Masbate as FMD free zones without vaccination. | Philippines | infoausaid@ausaid.gov.au |
| Animal Health and Plant Health | Regional cooperation and management of SPS matters within the ASEAN countries and at their national borders. | Assistance includes needs analysis (eg. internal and border quarantine capacities), specialist technical advice, direct human resources development activities. | ASEAN countries | infoausaid@ausaid.gov.au |
| Plant Protection | National Plant Herbaria and Arthropod Pest Collections in South- East Asia | Audit of the national arthropod pet and plant disease collections. | ASEAN countries | graeme.evans@daff.gov.au |
| Plant Protection | Plant Protection Information Exchange | Web site for regional information exchange and disease identification | ASEAN and Pacific Island countries | graeme.evans@daff.gov.au |
| Plant Protection | Standards for Developing Pest Lists | Drafted standards for the development of pest lists and guidelines for managing pest lists including the provision of associated software. | ASEAN countries | graeme.evans@daff.gov.au |
| Plant Protection | Plant Pest Risk Analysis Training | Regional workshop on pest risk analysis, including the provision of a comprehensive two-volume training manual | Thailand | graeme.evans@daff.gov.au |
| Animal Health | Development of technical regional guidelines, policies and strategies for live aquatic animal quarantine | Regional workshop and four in-country workshops to develop national aquatic animal quarantine policies and strategies and implement guidelines | APEC countries | eva-marie.bernoth@daff.gov.au |

| Technical Assistance Provided to Members and Observers: Ja | anuary 2000 to | December 2002 |
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| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: |
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| Animal Health | Electronic documentation for the clearance of animal, agricultural and fish commodities | Promote and implement with APEC economies an electronic system for the transmission of government to government export/import clearance documentation. | Indonesia, Malaysia, Singapore, Thailand | infoausaid@ausaid.gov.au |
| Plant Protection | A regional initiative to contain trans border movement of plant pests | Draft work program focussing on enhanced diagnostic capabilities and electronic management of information. | APEC countries | graeme.evans@daff.gov.au |
| Animal Health | OIE Campaign to Control and Eradicate Foot and Mouth Disease in South-East Asia (SEAFMD) | Facilitate and promote the international trade of animals and animal products by creating FMD-free areas in the region through improved veterinary services in FMD affected countries in South-East Asia, and to add value to the regional control program through activities of the SEAFMD Campaign Regional Coordination Unit. | South-East Asia | www.seafmd-rcu.oie.int/index.php |
| Plant Protection | FAO - Integrated Pest Management (IPM) in Vegetables | To intensify vegetable production in a sustainable, safe, profitable and environmentally sound manner leading to reduced pesticide use in vegetable growing and minimise the associated hazards for human health and the environment. | South-East Asia | infoausaid@ausaid.gov.au |
| Plant Protection | FAO - Integrated Pest Management (IPM) in Rice | To intensify rice production in a sustainable, safe, profitable and environmentally sound manner leading to reduced pesticide use in rice growing and minimise the associated hazards for human health and the environment. | South-East Asia | infoausaid@ausaid.gov.au |
| Plant Protection | Regional Fruit Fly Project Phase III The Pacific Regional Fruit Fly | Help several Pacific countries achieve the levels of technical capacity and technical knowledge for fruit fly management that have been acquired by other countries. | South Pacific region | infoausaid@ausaid.gov.au |

| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: |
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| Animal Health and Plant Health | Secretariat of the Pacific Community Program and Core Funding | Regional pest management in agriculture, fisheries/forestry and health aims to alleviate poverty and promote the sustainability of food crops | South Pacific region | infoausaid@ausaid.gov.au |
| Plant Protection, Animal Health, and Food Safety | Samoa Agriculture Sector Program Monitoring Group | Technical advice and monitoring to the Quarantine Project and MAFFM Institutional Strengthening Project. | Samoa | infoausaid@ausaid.gov.au |
| Plant Protection, Animal Health, and Food Safety | Quarantine Support | Improved efficiency and effectiveness of the Quarantine and Regulatory Division of MAFFM. | Samoa | infoausaid@ausaid.gov.au |
| Animal Health | Newcastle Disease in Village Poultry | Continued strengthening of the capability of stakeholders to successfully implement Newcastle disease control programs in three southern African countries, and decrease village poultry mortality rates caused by Newcastle Disease in project activity areas. | Mozambique, Malawi, Tanzania | infoausaid@ausaid.gov.au |
| Animal Health | Thailand–Australia Government Sector Linkages Program | Pilot zoning study, and associated training and database development for the detection, surveillance and monitoring of aquatic animal diseases, particularly for prawns | Thailand | ramesh.perera@daff.gov.au |
| Plant Protection | Capacity building in Plant Protection | Develop diagnostic capability and evaluation of herbarium specimens, including management through provision of software and computing capabilities | Thailand | Graeme.evans@daff.gov.au |

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| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: |
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| Animal Health and Plant Health | Capacity building for Agriculture and Rural Development | Technical, training and other assistance to enhance Vietnam's agricultural export crops including a roundtable discussion on key trade agreements, including WTO SPS Agreement; training courses on quarantine and trading implications for Vietnam's agricultural sector from global integration, training courses on technical measures under regional and international agreements; study tour to Australia and training abroad; publishing a handbook for the agricultural sector | Vietnam | infoausaid@ausaid.gov.au |
| Animal Health and Plant Health | Collaboration for Agriculture and Rural Development (CARD II) | To increase the productivity and competitiveness of Vietnamese smallholder agriculture and related enterprises, as well as strengthening the Ministry for Agriculture and Rural Development. | Vietnam | infoausaid@ausaid.gov.au |
| Plant Protection | Control of the larger grain borer | Expertise to formulate a functional and sustainable program in the containment and control of larger grain borer and other storage pests. | Zambia | infoausaid@ausaid.gov.au |
| Animal Health | Risks associated with zoonotic diseases in livestock production | To develop the surveillance capacity, determine the prevalence of and the risk factors associated with their transmission of <i>Trichinella, Leptospira</i> and <i>Angiostrongylus cantonensis</i> infection in livestock in the Pacific Islands. The findings of the project will be used to formulate a regional education and control program for zoonotic diseases and to establish a network on zoonoses. | Fiji, Papua New Guinea, Tonga | aciar@aciar.gov.au |

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| Animal Health | Development of a vaccine for control of Gumboro | To develop a master vaccine seed from local very virulent IBD strains, validate the level of protection provided by the attenuated vvIBD vaccine, develop an ELISA test to monitor effectiveness of experimental vvIBD vaccines, and develop an antigen test for differentiating between vvIBD virus and classical IBD virus strains. | Indonesia | aciar@aciar.gov.au | | |
| Animal Health | Production of a vaccine for the control of Jembrana disease | To develop and test a recombinant virus protein vaccine and a DNA vaccine for Jembrana disease in Bali cattle and also test a closely related vaccine for Bovine Immunodeficiency Virus of cattle. They will establish a protocol for vaccination against Jembrana disease in cattle and facilitate quality control and production of the vaccine by government and private enterprise. | Indonesia | aciar@aciar.gov.au | | |
| Animal Health | Understanding the socio-economic significance of Surra cattle disease | To provide preliminary information about the cultural, social, political and economic context of livestock disease in Indonesia, and to determine the likely effect on the transfer to Indonesian institutions of diagnostic technologies and control techniques. | Indonesia | aciar@aciar.gov.au | | |

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| Animal Health | Development of diagnostic and control methodologies for animal trypanosomiasis | Hands-on workshops and in-country training to enhance capability for effective surveillance of surra in West Papua, PNG and the Philippines through development and transfer of new diagnostic technologies; identify genetic markers for pathogenicity in T. evansi and investigate their usefulness in predicting outbreaks of clinical disease; test the effectiveness of existing trypanocidal drugs and new candidate compounds for the treatment of <i>T. evansi</i> . | Indonesia, Papua New Guinea, Philippines | aciar@aciar.gov.au |
| Animal Health | Disease control programs for small scale shrimp farmers | To develop and validate farm-level disease control programs for smallholders, to demonstrate their effectiveness, and to extend them using methods designed to ensure widespread adoption. | Indonesia, Thailand | aciar@aciar.gov.au |
| Animal Health | Control of Newcastle disease by enhanced production capacity, quality and distribution of the ACIAR-developed Newcastle disease vaccine, I-2. | To prepare quality-controlled I-2 vaccine and effective delivery systems, and to monitor impact of vaccine on Newcastle disease control at the national and village level. | Myanmar | aciar@aciar.gov.au |
| Animal Health | Bovine babesiosis and anaplasmosis, developing research and diagnostic capability | Epidemiology training in the capabilities and application of diagnostic tools to staff of the Philippines Animal Health Bureau (PAHB) in Australia. Additional epidemiological training in the Philippines to determine the incidence and impact of tick-borne diseases in smallholder cattle. | Philippines | aciar@aciar.gov.au |

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| Animal Health | Tick-borne diseases, delivery of vaccine and diagnostics | Develop effective alternatives to the live Anaplasma centrale vaccine, user-friendly methods of cryo-preservation of anaplasmosis and babesiosis vaccines, and improve the diagnostic capability of support extension services in Zimbabwe, Mozambique, Tanzania and South Africa. There is a significant training and awareness component for front-line regional veterinary staff who will be responsible for the transfer of this technology. | Zimbabwe, Mozambique, Tanzania, South Africa | aciar@aciar.gov.au |
| Food Safety | International food safety regulation and processed food exports | Examine the impact of SPS measures on the ability of (agricultural exporting) developing countries to achieve the full benefits of trade liberalisation. | India, Thailand | aciar@aciar.gov.au |
| Plant Protection | Host resistance, epidemiology and integrated management of faba bean, chickpea and lentil diseases | Study the epidemiology of major diseases affecting cool-season food legumes in West Asia and North Africa (WANA), particularly those caused by Ascochyta fabae, A. rabiei, Fusarium oxysporum f.sp. ciceris and lentis, Botrytis fabae and Uromyces viceae-fabae. Scientists will determine variability in virulence of pathogen populations on a range of host genotypes and evaluate germplasm and breeding lines of faba bean, chickpea and lentil originating from the ICARDA/Australia project for disease resistance and adaptation. They will also initiate the development of computer-based simulation models of epidemics to enable disease forecasting and to use as decision-support tools for disease management (e.g. fungicide application). | Bangladesh, China, Egypt, Ethiopia, India, Morocco, Nepal, Pakistan, Turkey | aciar@aciar.gov.au |

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| Plant Protection | Taxonomy of shoot borer and allied species | Survey H. robusta and allied species, from fresh and museum specimens from Australia, Sri Lanka, India, PNG and Ghana. Then subject apparently related specimens to molecular studies to make finer distinctions at genetic level. The results will be published in an illustrated guide. | Bangladesh, Ghana, Indonesia, Papua New Guinea, Philippines, Thailand, Vietnam | aciar@aciar.gov.au | |
| Plant Protection | Sustainable integrated management of whiteflies as pests and vectors of plant viruses | Collaboration between CSIRO Division of Entomology and CSIRO Division of Plant Industry in Australia, AVRDC in Taiwan and collaborators in Sri Lanka, Bangladesh, Malaysia, Indonesia, Philippines, Thailand, Nepal and Vietnam to improve understanding of whitefly in the Asian region, determine its extent and study the dynamics of the virus diseases it carries. | Bangladesh, Indonesia, Nepal, Vietnam | aciar@aciar.gov.au | |
| Plant Protection | Integrated management of botrytis grey mould (BGM) of chickpea | Evaluate operational integrated BGM management packages, and chickpea germplasm (including closely related wild Cicer species) for resistance to BGM under field conditions in Bangladesh and Nepal to provide a sound basis for genetic enhancement of host plant resistance to BGM. | Bangladesh, Nepal | aciar@aciar.gov.au | |

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| Plant Protection | IPM improvement of brassica vegetable crops | Further refine regimes of integrated pest management that significantly reduce the need to spray by studying the major factors affecting pest numbers in brassica crops and the role of beneficial organisms (parasitoids, predators and pathogens) in suppressing pest numbers. They will measure the impact of major pests on crop yield and quality loss, and investigate how to modify insecticide regimes to promote the use of 'soft' insecticides and minimise the amounts applied. They will also evaluate different pest management regimes and strive to promote wider acceptance of IPM in brassica production. | China | aciar@aciar.gov.au | | |
| Plant Protection | Population models and immunocontraceptive vaccines for rodents | Develop population modelling techniques to predict the occurrence of high densities of two pest rodents, Brandt's vole in the grasslands of China and the domestic mouse in S E Australia. This will be used to assess the feasibility of fertility control for management of grassland and cereal production ecosystems. Subsequently, to gain an understanding of the genes and proteins of the oocyte of the Brandt's vole to assess potential candidate agents for an immunocontraceptive vaccine. | China | aciar@aciar.gov.au | | |

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| Plant Protection | Postharvest handling and disease control in melons | Improve postharvest disease control and market quality of melons and other cucurbits through the strategic application of preharvest treatments to boost natural defence mechanisms in melons, and postharvest treatments to control disease and maintain quality. Also develop and test improved supply-chain management, analyse the economic benefits associated with using modern postharvest technologies and transport systems, and identify the most practical options to improve profitability for farmers. | China | aciar@aciar.gov.au |
| Plant Protection | Integrating phosphine fumigation practices into grain storage systems | Investigate technical innovations to enhance the efficacy of phosphine, characterise resistance in major pests, develop management strategies for an emerging pest (book lice (psocids)), and continue to monitor phosphine resistance levels in stored grain insects while formulating fumigation standards. | China, Vietnam | aciar@aciar.gov.au |
| Plant Protection | Impact of heavy metals on sustainability of fertilisation | Develop research capacity and laboratory facilities for the study of soil and crop contamination in Vietnam and establish training and exchange programs for staff in the collaborating countries. The maximum allowable concentrations of contaminants in soils of the region, the re-use of wastes on agricultural soils, contamination of produce and measurement of ecotoxic effects of contaminants on soil microbial processes will be measured and the criteria developed for their measurement, and methods of minimisation. | Chinese Taipai, Thailand, Vietnam | aciar@aciar.gov.au |

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| Plant Protection | Programme: Taro beetle management | Develop increased effectiveness of controlling taro beetle grubs, employing the fungal pathogen <i>Metarhizium anisopliae</i> and the viral pathogen <i>Baculovirus oryctes</i> , sustainable methods of control with minimal use of chemical pesticides, and synergistic combination of chemical pesticides and biological control agents to achieve optimum control. Results will be delivered | Fiji, Papua New Guinea | aciar@aciar.gov.au |
| Plant Protection | Development of forest health surveillance systems | by participatory workshops. Structured pest detection and management including the development of methodologies for systematic surveys for particular forest types, pest identification and management, rearing/culturing, and data storage and management, supported by access to a network of experts. The project will address training and specialist networking through workshops and on-the-job instruction, to increase country capacity. | Fiji, Samoa, Tonga, Vanuatu | aciar@aciar.gov.au |
| Plant Protection | Evaluation of herbicide-resistant weeds of wheat | To find a long-term method of control of <i>Phalaris</i> minor, a problem weed of the ricewheat cropping system of north-western India. | India | aciar@aciar.gov.au |
| Plant Protection | Improved quality and resistance to Phytophthora pod rot, cocoa pod borer and vascular streak dieback in cocoa | Enhanced infrastructure and capability within Indonesia for the collection, maintenance and screening for pest and disease resistance of cocoa genotypes, and conduct preliminary collection and screening of material and assessments of quality characteristics. | Indonesia | aciar@aciar.gov.au |

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| Plant Protection | Liriomyza huidobrensis leaf miner: developing pest management strategies | Determine the distribution of the leaf miner, and of its natural enemies (wasp parasites) in western and eastern Indonesia, and improve skills of Indonesian scientists in managing insecticide resistance and in studying pesticide resistance in parasitoid wasps. Scientists will develop alternative integrated pest management strategies to manage the problem. | Indonesia | aciar@aciar.gov.au |
| Plant Protection | Management of rodent pests in rice-based farming systems | Further develop an integrated rodent control system, initially at village level and district level. They will also investigate prospects for fertility control of rodents through bait delivery of an infertility agent. Project members will develop and maintain a 'Rodent Pest Information Network' and contribute to training scientists. | Laos, Indonesia, Malaysia, Vietnam | aciar@aciar.gov.au |
| Plant Protection | Ecologically based management of rodents in rain fed cropping systems | This project will draw on the extensive Asian experience of CSIRO with ecologically based rodent control strategies, utilising the successful techniques already employed in other South-East Asian countries and now comprising a new system for farm rodent control. Training will be a major component of all project objectives. | Myanmar | aciar@aciar.gov.au |
| Plant Protection | Impact and management of Oribius weevils | Biological investigation with focus on establishing the scope of the problem, recommending practical management practices, and providing knowledge of how to reduce damage in the short-term with insecticides. | Papua New Guinea | aciar@aciar.gov.au |

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| Animal Health | Inland pond aquaculture | Determine the status of inland pond aquaculture in PNG through a comprehensive survey of the industry and a desktop study of recent reports. At the start researchers will hold a training workshop for technical assistants, and towards the end present a stakeholders workshop. Researchers and fisheries administrators will gainer a clearer picture of the structure of the industry and the areas in need of resources. | Papua New Guinea | aciar@aciar.gov.au | | | |
| Food Safety | Microbial contaminants associated with sago processing and storage | Determine the causes and extent of health risks to consumers from contamination of village-produced sago, then identify options for reducing those risks and improving marketability of the processed sago. | Papua New Guinea | aciar@aciar.gov.au | | | |
| Plant Protection | Biofumigation for soil-borne disease management in tropical vegetable production | Test a range of brassicaceous crops for their suitability for planting in the tropics and for their biofumigant effect against bacterial wilt and Meloidogyne. Active chemicals will be identified. The most effective cultivars will then be tested in the field, including farmers' fields, for their ability to reduce losses caused by these soil pathogens in tomato, potato, eggplant and other solanaceous vegetable crops. | Philippines | aciar@aciar.gov.au | | | |

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| Plant Protection and Food Safety | Bioremediation technology for insecticide residues in horticulture | Address the problem of pesticide contamination of horticultural products by utilising Australian technology that employs enzymes produced by bacterial fermentation to degrade toxic residues, thus rendering them harmless. The procedures will be adapted for postharvest clean-up of insecticide residues on the surfaces of horticultural commodities. This use of the technology would make fruits and vegetables safer to eat and thus enhance the market competitiveness of the commodities. | Philippines | aciar@aciar.gov.au |
| Plant Protection | Control of bees and bee mites | To test a cheap, effective and appropriate control measure and to develop genetic markers that will allow the origin of the mites, and bees that spread them, to be identified. The markers will assist Philippine and Indonesian authorities to make decisions about the feasibility of eradication campaigns and/or the scope of control programs. Generate and support local capacity to undertake and promote control programs and to continue research. | Philippines | aciar@aciar.gov.au |
| Plant Protection | Development of an interactive key for sweet potato disorders | Extension workers in the Philippines were trained in use of the interactive key, and reported the following year on their experiences in the field. | Philippines | aciar@aciar.gov.au |
| Plant Protection | Minimising the impact of pesticides from agricultural systems | Development of risk-based approaches for reducing off-site impacts of pesticides applied to field crops, to protect human health, fisheries and aquatic ecosystems. | Philippines | aciar@aciar.gov.au |

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| Plant Protection | Bioherbicide development for cereals | Identification of fungi as potential bioherbicides for practical use and to establish a blueprint for development of other bioherbicides. Expected benefits include more integrated weed management and low-tech methods to mass-produce biocontrol fungi with potentially wide application in developing countries. The project will also produce an illustrated book on the weeds of North Vietnam. | Vietnam | aciar@aciar.gov.au |
| Plant Protection | Developing disease management capacity | Increased plant pathology research skills and plant disease management skills of Vietnamese scientists through training programs, improved access to information, advice on development of research programs and operation of practical research programs in a number of crops and commodities of increasing importance to Vietnam. Linkages were developed between the various institutions working on these problems throughout Vietnam. | Vietnam | aciar@aciar.gov.au |
| Plant Protection | Management of pest fruit flies | Determine the economically important species of fruit fly in each region of Vietnam, and the host range of each and economic impact of the major species. Training programs will upgrade skills in identification, biological studies and development and implementation of field control campaigns. Developed in conjunction with an initiative to implement field control of fruit flies, within the context of their rural development program for Vietnam. | Vietnam | aciar@aciar.gov.au |

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| Plant Protection and Food Safety | Selection for peanut varieties with low aflatoxin risk | Developed strategies to reduce preharvest contamination and colonisation by mycotoxin-producing strains of <i>Aspergillus fungi</i> , and to the use of ELISA-based monitoring technologies. A number of crop management and varietal methods to control 'on-farm' aflatoxin contamination were evaluated. Assessment using a simulation modelling integrating the interaction between crop, soil, environment and A. flavus to determine the probability of aflatoxin formation at various stages during growth, harvest and storage of peanuts. | India | aciar@aciar.gov.au | | | |
| Plant Protection | Huanglongbing management | Develop the basis for investigating the pathogen-vector relationships and their interactions using vector distribution surveys, identification of its natural enemies, then comparison of the natural enemy spectrum in Indonesia with that known from Vietnam, to identify potential natural enemies for a biocontrol program. | Indonesia, Vietnam | aciar@aciar.gov.au | | | |
| Food Safety | Information seminars and technical assistance to the Thailand Department of Agriculture and Department of Livestock Development on the Thailand National Project "Food Safety concerning Food Animals" and "Certification of Food Irradiation for Domestic and International trade" | The Food and Agriculture Organisation (FAO) of the UN and the International Atomic Energy Agency (IAEA) provided the funding for the visit. An AQIS expert in food technology and irradiation processing provided the seminars and also included fumigation and plant inspection information and field visits to orchid facilities. | Thailand | gary.luckman@daff.gov.au | | | |

| Technical Assistance | Provided to | Members and | Observers: | January | 2000 to | December 2002 |
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| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: | | |
| Quarantine and Plant Protection | Seminars and technical assistance to the Philippine Department of Science and Technology, the Bureau of Food and Drugs, National Food Authority, Philippine Nuclear Research Institute and the Plant Quarantine Service, on Good Agriculture Practices and certification for food and agricultural crops treated by radiation. | The funding and visit support were provided by the Food and Agriculture Organisation (FAO) of the UN and the International Atomic Energy Agency (IAEA) The seminars and field trips were aimed at assisting the Philippine's with Irradiation technology and evaluation for the IAEA of the Philippine projects "Enhancing agricultural productivity through radiation technology in Mindanao" | Philippines | gary.luckman@daff.gov.au | | |
| Plant Protection and Food Safety | FAO/IAEA Training workshop on Use of Irradiation to ensure Quarantine Security in Trade in Food and Agricultural Commodities for Asia Pacific country and local representatives in Canberra, Australia | Workshop training aimed at furthering Asia and Pacific country understanding of irradiation as a new technology for food safety and Quarantine purposes. The workshop involved formal lectures; field trips and training with AQIS officers in examining imported irradiated goods. (Imported Orchids) Representatives from 10 Asia Pacific countries and officers from the FAO/IAEA, Australia and New Zealand attended the workshop | China, India, Bangladesh, Pakistan, Thailand, Philippines, Indonesia, Malaysia, South Korea, Singapore | gary.luckman@daff.gov.au | | |
| Plant Protection and Food Safety | Australian Fumigation Accreditation Scheme | Technical and workshop training in best practice for conducting and monitoring methyl bromide fumigations including the establishment of a registration and auditing system designed to support Indonesian regulatory responsibilities | Indonesia | david.t.cox@daff.gov.au | | |
| Plant Protection and Food Safety | Australian Fumigation Accreditation Scheme | Preliminary workshop and planning for technical workshop training in best practice for conducting and monitoring methyl bromide fumigations and establishment of a registration and auditing system | China, India, Malaysia, Philippines, Thailand, Vietnam | david.t.cox@daff.gov.au | | |

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| Plant Protection | Assessment of pest reference collections in ASEAN countries | Assessment of reference collections in Myanmar, Thailand, Laos, Vietnam, Malaysia, Singapore, Indonesia and the Philippines for the capacity to meet international (ISPM) standards for pest records. Also review of diagnostic and information management skills. | All ASEAN nations except Cambodia | Ky.lum@cabi.org |
| Plant Protection | Capacity building and collection rehabilitation under Australia - Indonesia GSLP program | Training in arthropod diagnostics and database development. Provision of Biolink database. Rehabilitation of insect storage cabinets. | Indonesia | ssiwi@inob.net.id |
| Plant Protection | Establishment of plant health info. Exchange network for SE Asia and the Pacific (PestNet) | Development of website www.pestnet.org. Appointment of pest net moderator from SE Asia. Production of awareness material to promote the network | All ASEAN nations except Cambodia, Myanmar. | ky.lum@cabi.org |
| Animal Health | Quality Assurance for Animal Health Laboratories in Indonesia and Thailand Funded by the International Agriculture Cooperation Fund of Agriculture, Fisheries and Forestry Australia. | To enable regional animal health laboratories to meet international standards required for certification for export and for testing of imports. Proficiency testing of a selected panel of tests is based on the respected Australian National Quality Assurance Program for animal health laboratories. There will be a period of proficiency testing followed by Australian assistance in rectifying any problems in the testing methodology. | Indonesia, Thailand | Tim.buick@daff.gov.au |
| Animal Health and Plant Protection | Consolidation of Quarantine Legislation, Agricultural Policy & Administrative Management | Workshops providing policy and legislative support consistent with national agricultural quarantine legislation. Emergency disease response training resulted in the development of a national emergency management plan. | Indonesia | tim.buick@daff.gov.au |

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| Animal Health and Plant Protection | Tripartite Committee on Agricultural Health and Quarantine Meeting | Review of animal and plant health status by country, strengthened capacity for monitoring and surveillance of exotic agricultural pests and diseases and bilateral discussions. | Indonesia, Papua New Guinea | Joanne.pearce@daff.gov.au | | | |
| Animal Health | Assistance with monitoring for foot and mouth disease | Comprehensive program of training in design and implementation of surveys, disease recognition course at Australian Animal Health Laboratory, and provision of public awareness materials. Transfer of diagnostic technology and training in emergency animal disease response are planned. | Indonesia | Tim.Buick@daff.gov.au | | | |
| Animal Health | Rapid diagnosis of animal rabies | Provision of fluorescence microscope, reagents and ancillary equipment for rapid diagnosis of rabies in animals on the island of Flores. | Indonesia | Tim.Buick@daff.gov.au | | | |
| Animal Health | Develop and deliver Quality Assurance course for six senior overseas laboratory managers. Implement proficiency testing for a panel of veterinary diagnostic tests through the Australian National Quality Assurance Program. | Technical training in laboratory quality systems and veterinary diagnostic tests. | Indonesia, Thailand | Catherine.ainsworth@dpi.vic.gov.au | | | |
| | Provide follow up assistance for problem areas exposed by the proficiency testing. | | | | | | |

| Sector | Description of Particular Programme: | Form of Assistance: | Provided to: | Contacts: |
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| Animal Health | Quality systems for veterinary testing in diagnostic laboratories | Workshop training | Argentina, Brazil, Cameroon, Cuba, El Salvador, Ethiopia, Indonesia, Pakistan, Thailand, Uruguay, Vietnam, South Africa | Catherine.ainsworth@dpi.vic.gov.au |
| Food Safety | Technical training for dairy farmers, collection depots, and factories in milk hygiene management | Workshops, lectures, demonstrations and individual advice | Indonesia, Malaysia | John.moran@dpi.vic.gov.au |
| Animal Health | 30 April - 3 May 2002, ACIAR training workshop at Brackish water development centre, Jepara Indonesia | Training of laboratory staff in PCR, histopathology, bacteriology | Indonesia | bjones@agric.wa.gov.au |
| Animal Health | ACIAR training workshop at Brackish water development centre, Jepara Indonesia, also included separate training to East Java Fisheries service staff at Bangil | Training of laboratory staff in PCR, histology and bacteriology | Indonesia | bjones@agric.wa.gov.au |
| Animal Health | ACIAR intensive training for 4 Indonesian laboratory staff at South Perth Animal Health Laboratories | Training of laboratory staff in disease diagnosis, laboratory management and diagnostic techniques | Indonesia | bjones@agric.wa.gov.au |
| Animal Health | Phase II NACA/FAO Asia-Pacific Molluscan Health Management workshop (Brisbane) | Training in histopathology and disease diagnosis to 31 participants from the Asia Pacific region. | China, Indonesia, Korea, Malaysia, Philippines, Sri Lanka, Thailand, Vietnam | bjones@agric.wa.gov.au |
| Animal Health | Training in Epidemiology and Laboratory Techniques | Four week training course provided to two veterinarians from the Shandong Province of China in November 2002 | China | amercy@agric.wa.gov.au and chawkins@agric.wa.gov.au |
| Animal Health | Risk assessment training for Middle East veterinarians | Two week training courses provided to Government veterinarians and other scientists, March to June 2002 | Kuwait, United Arab Emirates, Oman, Egypt | rnorris@agric.wa.gov.au and Tmartin@agric.wa.gov.au |

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| Animal Health | Training in meat hygiene and pre- slaughter livestock management for Middle East veterinarians | Two day training courses provided to Government veterinarians, July 2003 | Jordan, Egypt | rnorris@agric.wa.gov.au and Tmartin@agric.wa.gov.au |
| Animal Health | Training in parasitology and immunology | One week training course and one week workshop for government veterinarians and other scientists, October 1999 and August 2001 | China | dpalmer@agric.wa.gov.au |
| Animal Health | Training in immunological laboratory techniques | One week training workshop for veterinarians and other scientists, November 1999 | China | dpalmer@agric.wa.gov.au |
| Animal Health | Lecture series in risk assessment and disease free zoning | Lecture series | China | kpritchard@agric.wa.gov.au |
| Animal Health | AGWEST International organised a training visit for two veterinarians in laboratory techniques, risk assessment | Visiting students | China | amercy@agric.wa.gov.au |
| Animal Health | Development and delivery of practical disease control programs for small-scale shrimp farmers in Indonesia, Thailand and India (2002 - 2006). Project uses science-based methods aimed, in art, at minimising inappropriate chemical use on shrimp farms. | Technical training and funding support for the implementation of science-based health management and extension programs for small-scale shrimp aquaculture. Including workshops on disease diagnosis, extension methods and pond implementation. | Indonesia, Thailand, India | Richard.callinan@agric.nsw.gov.au |
| Plant Protection | Technical training in plant health and quality management in the vegetable industry | Workshops, field demonstrations, and lectures | Indonesia | Wendy.morgan@dpi.vic.gov.au |

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| Plant Protection | As part of a horticulture development project, AGWEST International provided technical assistance on pest and disease control in apples in Sikkim to DoH staff and farmers and a study tour for 4 DoH staff to Australia (funded by AusAID) | Technical input, workshops, training sessions | India | kpritchard@agric.wa.gov.au |
| Plant Protection | CARD project in Vietnam provided training in pest and disease control in seed potatoes (funded by AusAID) | Training and workshops | Vietnam | pmattingley@agric.wa.gov.au |
| Food Safety | Technical training in food safety to assist Shandong Department of Agriculture (China) in development of provincial food safety initiatives | HACCP-based Food Safety Planning to 15 government managers | China | denyse.corner@dpi.qld.gov.au |
| Food Safety | Training in the screening and confirmation of several antibiotic residues that can be found in meat products. | Training for three Vietnamese scientists (January 2002) and for one Chinese scientist (June 2002) | China, Vietnam | Stephen.were@dpi.qld.gov.au |
| Plant Protection | AusAID CARD program for the establishment of fruit fly disinfestation treatment development capacity in Plant Protection Department of Vietnam | Facilities, equipment and training | Vietnam | Rod.Jordan@dpi.qld.gov.au |
| Food Safety | Workshop: Reaping the benefits of biotechnology | Training in biotechnology and policy, incorporating food safety regulation, its implementation, including issues associated with genetically modified food and it's labelling, the development of international standards for food derived from biotechnology based on the international standard, and guidance to assess the safety and labelling of food produced using biotechnology. | APEC | Luba.tomaska@foodstandards.gov.au |

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| Food Safety | Second International Workshop on Total Diet Studies | A two-week workshop to promote and support total diet studies, focussing on the risk analysis framework, exposure assessment and associated issues with dietary exposure assessments. | China, Czech Republic, Fiji, India, Indonesia, Iran, Jordan, Federated States of Micronesia, Morocco, New Caledonia, Pakistan, Thailand, Vietnam | Luba.tomaska@foodstandards.gov.au |
| Food Safety | First ASEAN Food Safety Standards Harmonisation Workshop, Singapore | Shared regional information about food additives, specifically intake data on colours, sweeteners and preservatives in comparison with the Codex general standards on food additives, exposure assessment data, and formalise activities to harmonise ASEAN food standards. | ASEAN countries | Luba.tomaska@foodstandards.gov.au |
| Food Safety | Second training workshop on GMO safety assessment, Kuala Lumpur, Malaysia | Review of recent developments related to the safety assessment of foods derived from biotechnology using case studies, with the intention of continued harmonisation of food safety regulation. | All ASEAN countries except Vietnam | Luba.tomaska@foodstandards.gov.au |
| Food Safety | Visit to National Drug Agency of Drug and Food Control, Indonesia | Lectures on regulation of foods derived from biotechnology, their safety and labelling. Inter-agency meetings to clarify aspects of the interpretation of the Australian and New Zealand Food Standards guidelines for safety and labelling of GM foods. | Indonesia | Luba.tomaska@foodstandards.gov.au |
| Food Safety | FAO/WHO Workshop on applying food safety risk analysis in Asia – practical approaches, Kuala Lumpur | Practical approaches to chemical risk assessment, focussing on chloropropanols and chlorpyrifos | Malaysia, Thailand, Singapore, Bhutan, Nepal and Mongolia | Luba.tomaska@foodstandards.gov.au |

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| Food Safety | APEC/WTO Capacity building: SPS implementation program, China | Lectures and group discussion on matters relating to the implementation of the SPS Agreement in relation to food safety. Topics included general and applied risk analysis in relation to food safety, the Codex standards and their relationship to the SPS Agreement, and an overview of Food Standards Australia New Zealand, with particular reference to Codex and food safety regulation. | China | Luba.tomaska@foodstandards.gov.au |
| Food Safety | Food Recall Protocols | Provide expertise in developing food recall protocols for Vanuatu, funded by WHO, WPRO Regional | Vanuatu | Merrilyn.O'Sullivan@foodstandards. gov.au |
